

# EDUCATION SECTOR ENHANCEMENT PROGRAM

(BA-0009)

## EXECUTIVE SUMMARY

**BORROWER AND  
GUARANTOR:**

Government of Barbados

**EXECUTING  
AGENCY:**

Ministry of Education, Youth Affairs and Culture (MEC)

**AMOUNT AND  
SOURCE:**

IDB:	US\$ 85,000,000 (OC)
CDB parallel financing:	US\$ 31,500,000
Local counterpart funding:	<u>US\$ 96,607,000</u>
Total:	US\$213,107,000

**FINANCIAL  
TERMS AND  
CONDITIONS:**

Amortization period:	25 years
Disbursement period:	7 years
Interest rate:	variable
Inspection and supervision:	1%
Credit fee:	0.75%
Currency:	U.S. dollars from single currency facility

**Caribbean Development Bank**

Amortization period:	17 years
Disbursement period:	8 years
Interest rate:	6.4%
Inspection and supervision:	0%
Credit fee:	1%
Currency:	U.S. dollars

**OBJECTIVES:**

The Education Sector Enhancement Program (ESEP) is designed to help the MEC implement the education reform outlined in the 1995 White Paper. This policy paper emerged out of the need to improve the quality of education in order to ensure that citizens receive a sound education and are readily retrainable through the adoption of a coherent set of strategic measures aimed at improving the relevance and effectiveness of the national curriculum, pedagogy, teaching practices, and assessment mechanisms in the education system. The ESEP will complement other quality and equity enhancement measures outlined in the White Paper, and which are already underway. The goal of the program is "to effect an increase in the number of students contributing to sustainable social and economic development of Barbados". The objective of the program is to ensure that the

teaching methodology and materials used in the schools reflect the shift that is taking place in the economy.

**DESCRIPTION:**

The program is comprised of the below five closely interrelated components. It will be executed over a seven-year period. During the first year, 15 schools will be selected as "demonstration" schools. These schools will constitute a special group in which the pedagogical, technical, and implementation strategies will be tested. The remaining primary and secondary schools will be phased into the program at an average of about 19 schools per year over years two to seven.

a. **School rehabilitation** (US\$39.4 million). This component will consist of:

1. The rehabilitation of all existing primary and secondary school plants to make them computer and network ready, including: (i) the development of computer laboratories; (ii) electrical upgrading and wiring; (iii) the provision of "dust-free" environments; (iv) protection systems for hardware and software; and (v) furniture adapted to the technologies in use.
2. Other extensive structural repairs that go beyond the integration of computers in the schools, but that are required to ensure the improved delivery of education, including among other repairs: (i) plumbing; (ii) existing roofs; (iii) floors and windows; and (iv) sanitary blocks, etc.

School maintenance would contain a budgeted long-term approach to scheduled and systematic upkeep. It is expected that all the rehabilitation is to be in existing structures and that no new buildings will be erected using project funds.

b. **Technological infrastructure** (US\$68.9 million). This component will support a gradual computerization of all primary and secondary schools. It will include the provision of hardware, software, and the necessary networking infrastructure. A total of approximately 8,000-10,000 computers will be placed in subject classrooms, staff rooms, libraries and offices, and distributed on the basis of specific deployment intensity patterns approved by the Government of Barbados (GOB). "Media centers" will be created in each classroom and include a television set, video cassette recorder, and TV-PC convertor. Software made available to the schools will be only those programs that fulfill MEC selection criteria.

A different technological configuration may be required for older schools, where physical constraints make it difficult to run cables and easily place workstations. A pilot scheme will be conducted using "Study Pro" laptop computers manufactured by "NetSchools Solution".

- c. **Human resource development and training** (US\$4.9 million). This component will contribute significantly to the long-term sustainability of the program. More than 4,000 education-sector professionals will be trained over the life of the program. This component will finance 360 hours per teacher of formal training, workshops, classroom training, and the development of learning materials for teachers ("school coaches"); 50-150 hours of training and materials for MEC and school administrative, library, and secretarial staff; continuous training at the school-level; study tours; and specialized training for information technology coordinators. The proposed training model is a gradual, multiplier, "cascade" approach that enables the sharing of expertise and the development of multiple support systems. To maximize available resources, the majority of this training will be in-service and site-based. School IT Teams comprised of the principal, a teacher with responsibility for the network, and a teacher with responsibility for curriculum matters will be formed in all schools. By the end of the program, the entire education staff will have received additional training in IT and special needs education.
- d. **Curriculum reform and evaluation** (US\$1.5 million). Most of the curriculum reform activities necessary to support the program are already ongoing. These activities will be enhanced through: (a) establishment of a Software Review Center and the systematic integration of software into classroom activities; (b) establishment of an Education Evaluation Center in the School of Education at the University of the West Indies, Cave Hill Campus; (c) comprehensive reform of the national curriculum, including the introduction of new content areas related to IT; and (d) development of new strategies for teaching and learning which maximize the options offered by IT.
- e. **Institutional strengthening** (US\$5.4 million). This component will support the full operation of the Program Coordination Unit (PCU), two external evaluations, the design and supervision of all civil works activities, and local and international technical assistance, as needed.

**RELATIONSHIP  
OF THE  
PROGRAM IN THE  
BANK'S  
COUNTRY AND  
SECTOR  
STRATEGY:**

The key to the Bank's strategy is to assist in the strengthening of sustained export-based economic growth. The strategy focuses on improving the competitiveness of the country's economy, protecting natural resources, and improving the efficiency of social service delivery. The proposed program seeks to provide a sound education so as to make citizens readily retrainable at any stage of their lives. Further, it will encourage future growth and employment by generating widespread mastery among the youth of emerging information technologies and the intellectual skills associated with them. This will position a small country like Barbados to compete in the global market economy on equal terms in knowledge-based and skill-intensive industries such as the international business and informatics sectors.

**ENVIRON-  
MENTAL/SOCIAL  
REVIEW:**

**Environmental impact.** To the greatest extent possible, the project will use existing infrastructure more efficiently. Improvements will be carried out in accordance with the norms established by the MEC, the legal requirements of the Town Planning Act, and the environmental standards and health regulations established and enforced by the Ministry of Health and the Environment. Said norms will be reviewed to ensure compliance with Bank standards prior to the initiation of civil works, and arrangements will be made for the proper disposal of hazardous materials. No adverse environmental impact is envisaged.

**Social impact.** The provision of IT in all schools will benefit all segments of the school-age population. The project will contribute to a more equitable access to IT outside of the school environment through the targeted provision of compensatory programs. Care will be taken to ensure that the selection criteria for software are culture and gender sensitive.

**BENEFITS:**

- a. **A skilled workforce.** In a knowledge-based, service-oriented, and more widely-entrepreneurial system, it is imperative that persons be able to think critically, creatively, and participate in a technologically-infused work environment. The ESEP is a significant reform for anywhere in the world. It moves towards the installation of state-of-the-art technology, as well as child-centered paradigms which will enable the education system to produce the skilled workforce that is required to drive a modern economy. Given its level of economic and social development and small scale, Barbados is a good candidate for such an educational reform program.
- b. **Efficiencies.** Direct benefits will be seen in increased

numbers of students passing out of the educational system with higher rates of success than previously, and with increasingly higher numbers of youth better prepared to participate in a predominantly service economy. It is anticipated that increased efficiency will also be reflected in lower drop-out rates and higher pass rates at the various exam hurdles. As the number of students leaving the system with an accepted level of certification increases, greater opportunities for tertiary participation, youth employment, and increased social satisfaction are anticipated. Efficiencies in the management of the education system and in resource allocation are also expected from the networking of schools.

**RISKS:**

- a. **Slippage in implementation.** Taking into account possible implementation delays, the GOB decided to lengthen the project implementation period from five to seven years. Given the current building boom in Barbados, delays may occur and have already, in fact, been encountered in the pre-qualification and selection of firms. Construction delays raise costs, and slower implementation could also mean that students benefit from the innovation later. This situation may require some retraining of the initial cohort of trainers (school and subject coaches) if they go too long without opportunity to use their newly acquired skills.
- b. **Design uncertainty.** There have been few far-reaching technology projects in education that have not taken considerably more time than originally conceived. Because of the innovative nature of the program, uncertainty is great. This risk has been mitigated by building in flexibility for adjustment during implementation, as this is considered to be the appropriate approach for projects of this level of complexity and innovation. The program is designed following a "test and fix" model, where technology will be introduced gradually in a seven-year plan, allowing the experience of previous years to inform refinement of the design for subsequent years. Integrated monitoring and supervision mechanisms will be used to inform the "test and fix" process, and will be supplemented by summative evaluation, annual reviews; and two independent, comprehensive external evaluations.
- c. **NetSchools.** The "Study Pro" laptops that are being piloted (see paragraph 2.14), are being provided by a relatively new company. It is also an especially costly activity within the project. While a small number of school districts in North America are experimenting with the program, it has not yet been thoroughly tested and evaluated. A risk of the program

would be to implement the NetSchools solution on a wide scale without a thorough period of implementation or precise information. To mitigate this risk the MEC has proposed an initial pilot test of the NetSchools program in three schools over one full academic year. Furthermore, there are provisions for the first independent evaluation to assess the efficiency, efficacy, and cost-effectiveness of this approach, prior to deciding on a future course of action regarding this intervention.

- d. **Institutional capacity.** As in many other projects, there is a risk in the capacity of the MEC and the schools to execute the program. The complex characteristics of the new IT scope will demand close coordination between central ministry units and the schools, especially for support in pedagogical and technical matters. ESEP's execution design has taken this into consideration and specific actions are planned to mitigate this risk. Enough human and financial resources have been allocated to the PCU to provide them with the necessary capacity to manage project activities. The envisioned technical support system is expected to provide timely assistance to all levels of IT users.
- e. **IT utilization.** The program has been designed taking into consideration lessons learned from more than a decade of research in education reform and technology. We know, for instance, the importance of having a well-planned, well-paced and continuously-monitored computer-introduction process; we know that teachers cannot be replaced by machines; we know that teacher training is essential, and so forth. We also know that making massive use of computers in education entails risks. Some risks are financial ? computers consume resources that could be used for alternative purposes, to buy books, to hire more teachers, etc. There are also pedagogical risks ? computers can be underutilized or inappropriately used by teachers and by administrators. These and other lessons have been considered in the design of the program.

**SPECIAL  
CONTRACTUAL  
CONDITIONS:**

Conditions precedent to disbursement:

- a. Establishment of necessary bank accounts and procedures (see paragraph 3.2).
- b. The GOB and UWI will subscribe to an agreement that will govern the establishment of the Education Evaluation Center and ESEP evaluation (see paragraphs 2.23, 2.26, and 3.3).
- c. Establishment and operation of four coordinating committees: (i) Policy Steering Committee; (ii) Advisory Committee; (iii) Planning and Implementation Steering Committee; and (iv) Demonstration Schools Steering Committee (see paragraph 3.7).
- d. Evidence of CDB financing and GOB budgetary allocation for program (see paragraph 3.16).

**POVERTY-  
TARGETING:**

No.

**EXCEPTIONS TO  
BANK POLICY:**

None.

**PROCUREMENT:**

The limits over which international competition bidding will be used for the procurement of this project are: US\$250,000 for goods and related services, and US\$1.5 million for civil works.

Sole source procurement of specialized software and hardware will follow Bank rules for the procurement of specialized equipment and didactic materials in education, science and technology.

# **INTER-AMERICAN DEVELOPMENT BANK**

## **PC-MAIL**

File Classification:  
LO-PUS-BA0009

**DATE:** January 12, 1999

**TO:** Public Information Center

/signed/

**FROM:** Máximo Jeria  
Chief, RE3/SO3

**SUBJECT:** BARBADOS. Education Sector Enhancement Program (BA-0009).

In accordance with policy GN-1831-3 (Information Access Policy), please find attached the Executive Summary of the Loan Proposal for the above-mentioned operation, that was approved by the Board of Directors on December 8, 1998.

Attachment